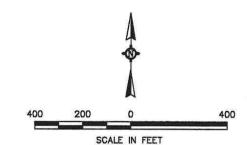


Soil Vapor Wells Sampled During Events 2 and 3 **24** 

## Countours:

- 1. Represent minimum known areal distribution based on sampling event.
- 2. Not queried where some horizontal control exists.
- —?— Total Volatile
  Organic Compounds (VOC's)
  Detected During Events 2 and 3
- Carbon Tetrachloride (CCI4) Detected During Events 2 and 3
- 7,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113) Detected During Events 2 and 3
- —?— Trichloroethene (TCE) Detected During Events 2 and 3
- -?- 1,1-Dichloroethene (1,1-DCE)
  Detected During Events 2 and 3
- Concentrations of Total VOC's Exceeding 100  $\mu$ g/L-Vapor at an Individual Sample Point
- Concentrations of Carbon Tetrachloride (CCI4) Exceeding 100 µg/L-Vapor at an Individual Sample Point



Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-7

TOTAL VOCS AND OTHER
CONSTITUENTS OF POTENTIAL CONCERN,
EVENTS 2 AND 3
DECEMBER, 1994 - MARCH, 1995

Jet Propulsion Laboratory Pasadena, California





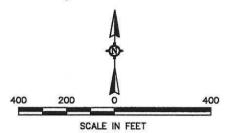
● 24 Soil Vapor Wells Sampled During Events 2 and 3

### Countours:

- 1. Represent minimum known areal distribution based on sampling event.
- 2. Not queried where some horizontal control exists.
- -?- Total Volatile
  Organic Compounds (VOC's)
  Detected During Events 2 and 3
  - ?— Carbon Tetrachloride (CCl<sub>4</sub>)
    Detected During Events 2 and 3
- ? 1,1,2—Trichloro—1,2,2—Trifluoroethane (Freon 113) Detected During Events 2 and 3
- —?— Trichloroethene (TCE)
  Detected During Events 2 and 3
- -?- 1,1-Dichloroethene (1,1-DCE)
  Detected During Events 2 and 3
- Concentrations of Total VOC's Exceeding 100 µg/L—Vapor at an Individual Sample Point
- Concentrations of Carbon
  Tetrachloride (CCl<sub>4</sub>) Exceeding
  100 µg/L—Vapor at an
  Individual Sample Point
- ND Non-Detect at Laboratory Detection Limit of 1.0 μg/L-Vapor.
- P Sample Port Plugged; No Sample Collected
- W Sample Port Waterlogged; No Sample Collected

#### NOTE:

Highest concentrations from either event are presented.

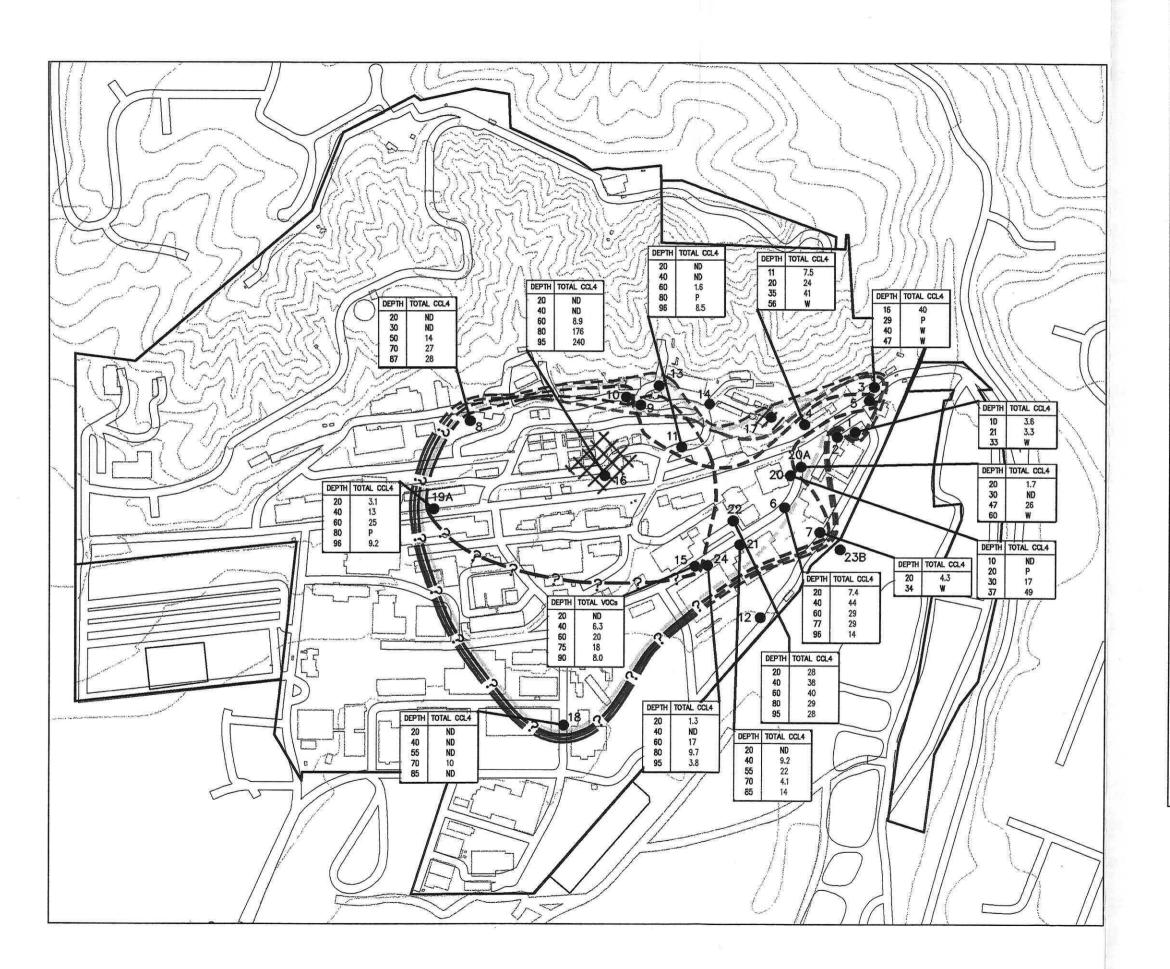


Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-8
TOTAL VOC
CONCENTRATIONS AT DEPTH
EVENTS 2 AND 3
DECEMBER, 1994 - MARCH, 1995

Jet Propulsion Laboratory Pasadena, California





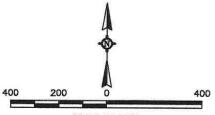
 Soil Vapor Wells Sampled During Events 2 and 3

#### Countours:

- 1. Represent minimum known areal distribution based on sampling event.
- 2. Not queried where some horizontal control exists.
  - Total Volatile
    Organic Compounds (VOC's)
    Detected During Events 2 and 3
  - Carbon Tetrachloride (CCl<sub>4</sub>)
    Detected During Events 2 and 3
- 7 1,1,2—Trichloro—1,2,2—Trifluoroethane (Freon 113) Detected During Events 2 and 3
- --?- Trichloroethene (TCE)
  Detected During Events 2 and 3
- -?- 1,1-Dichloroethene (1,1-DCE)
  Detected During Events 2 and 3
- Concentrations of Total VOC's Exceeding 100 μg/L-Vapor at an Individual Sample Point
- Concentrations of Carbon
  Tetrachloride (CCl<sub>4</sub>) Exceeding
  100 µg/L—Vapor at an
  Individual Sample Point
- ND Non-Detect at Laboratory Detection Limit of 1.0 μg/L-Vapor.
- P Sample Port Plugged; No Sample Collected
- W Sample Port Waterlogged; No Sample Collected

#### NOTE:

Highest concentrations from either event are presented.



SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-9

CARBON TETRACHLORIDE

CONCENTRATIONS AT DEPTH,

EVENTS 2 AND 3

DECEMBER, 1994 - MARCH, 1995

Jet Propulsion Laboratory Pasadena, California





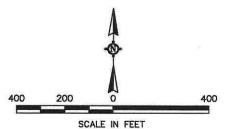
Soil Vapor Wells Sampled During Events 2 and 3

#### Countours:

- 1. Represent minimum known areal distribution based on sampling event.
- 2. Not queried where some horizontal control exists.
- -?- Total Volatile
  Organic Compounds (VOC's)
  Detected During Events 2 and 3
- Carbon Tetrachloride (CCl4)
  Detected During Events 2 and 3
- 7. 1,1,2—Trichloro—1,2,2—Trifluoroethane (Freon 113) Detected During Events 2 and 3
- —?— Trichloroethene (TCE)
  Detected During Events 2 and 3
- -?- 1,1-Dichloroethene (1,1-DCE)
  Detected During Events 2 and 3
- Concentrations of Total VOC's Exceeding 100 µg/L—Vapor at an Individual Sample Point
- Concentrations of Carbon
  Tetrachloride (CCl<sub>4</sub>) Exceeding
  100 µg/L—Vapor at an
  Individual Sample Point
- ND Non-Detect at Laboratory Detection Limit of 1.0  $\mu \mathrm{g/L-Vapor.}$
- P Sample Port Plugged; No Sample Collected
- W Sample Port Waterlogged; No Sample Collected

#### NOTE

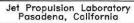
Highest concentrations from either event are presented.



Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-10
FREON 113 CONCENTRATIONS

AT DEPTH EVENTS 2 AND 3 DECEMBER, 1994 - MARCH, 1995



Explanation Soil Vapor Sample Point and Depth 240 Concentrations of CarbonTetrachloride (μg/L-Vapor) Concentrations of Freon 113 ( µg/L-Vapor) Concentrations of Trichloroethene  $(\mu g/L-Vapor)$ WEST SOIL VAPOR WELL NUMBERS EAST Concentrations of 1,1-Dichloroethene  $(\mu g/L-Vapor)$ 19A 18 16 10 13 11 15 24 14 22 21 12 17 20 20A 7 (2)or(3) Indicates Sample Event From Which Result Came 1260 Non-Detect for All Compounds of Potential Concern @ Laboratory Detection Limit of 1.0 µg/L-Vapor Sample Port Plugged; No Sample 1240 Collected P (3) Sample Port Waterlogged; No Sample 2.1(3) 1.7(2) GROUND SURFACE (TYPICAL) Collected 1220 2.9(2) Boring Terminated in Granitic Bedrock 1.5(2) 1.3(2) 20 5.1(2) 30 Boring Drilled North of JPL Fault; SER ND 50 1.8(2) ND No Groundwater Information Available 7.6(2) Estimated Approximate Groundwater 1200 3.5(2) 35 Elevation During Event 2 3.2(3) Level Perched Groundwater 70 1.9(2) 3.9(2) 50 1.5(2) 1180 SO ND Sea 2.5(3) 23B 2.6(2) 11.1(3) Mean 70 1.8(2) 13(3) 1160 6.5(3) Above 87 **6.5(3)** NF 10(3) 25(3) 1.2(2) 5.6(3) 1.8(3) 1140 2.6(2) 1.6(3) 15(3) 3.0(3) 33(3) ELEVATION ( Feet 176(2) 20 1,7(3) 6.3(3) 20 20 P 30 17(3) 20(3) 37 49(3) 25(3) 80 2.7(2) 1120 24(3) 2.2(3) 28(3) ND 47(3) 95 240(3) 1.9(2) 41(3) 3.1(3) 8.4(3) ND 9.6(3) 4,7(3) 44(3) 8.0(3) 2.8(3) 1100 2.7(2) 29(2) 1.9(3)

38(3) 34(3) 6.4(3)

29(3) 16(3)

23(3) 16(3)

28(3) 28(3) 6.4(2)

6.3(3) 49 3.8(2)

18(2) 1.5(2) 34(2) 9.7(2) 23(2) 1.8(2)

50 20(3) 33(2)

90 8.0(2) 16(2)

17(3)

17(2) 5.3(3)

95 3.8(2) 9.9(2)

9.2(3)

1.7(3)

22(3)

10(3)

4.1(2)

2.8(2)

5.7(3) 14(3) 15(3)

15(3) 4.7(3)

ND (2) W (3)

50(3)

19(3) 2.4(3)

29(3) 25(3) 1.4(3)

96 14(2) 33(3)

26(3) 20(3)

40(3)

3.3(2)

32 ND (2) 5 ND 77777 W (3) 11 ND

## NOTES:

1080

1060

1040

1020

1000

980

HIGHEST CONCENTRATIONS FROM EITHER EVENT ARE PRESENTED.

21(2) 1.4(2)

ND (2)

P (3)

1.7(3). 2.9(3)

1.7(2) 2.9(3)

2.2(3)

2.6(3) 3.7(3)

85 4.2(3) 3.5(3)

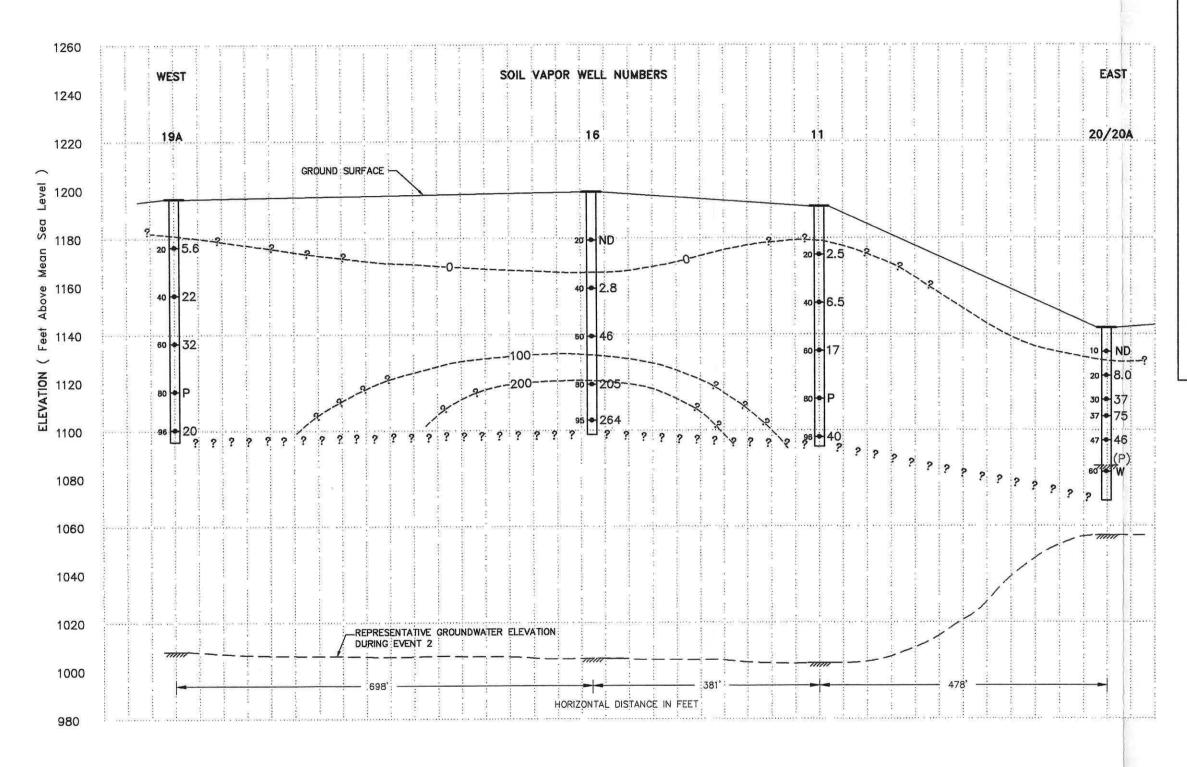
IF NO DATA IS PRESENTED FOR A PARTICULAR COMPOUND, RESULTS FOR THAT COMPOUND AT THAT SAMPLE POINT WERE NON-DETECT AT THE LABORATORY DETECTION LIMIT OF 1.0  $\mu$ g/L-VAPOR.

## FIGURE 4-11

VERTICAL EXTENT OF CONSTITUENTS OF POTENTIAL CONCERN FROM WEST TO EAST ACROSS THE JPL SITE, EVENTS 2 AND 3 DECEMBER, 1994 - MARCH, 1995

Jet Propulsion Laboratory Pasadena, California





NOTE:

THE CONCENTRATION SUMS PRESENTED INCLUDE THE HIGHEST RESULTS OBTAINED FROM EITHER EVENT.

Explanation

- 20 Soil Vapor Sample Point and Depth
- 2.5 Concentrations of Total VOCs  $(\mu g/L-Vapor)$
- Non-Detect @ Laboratory Detection of 1.0  $\mu$ g/L-Vapor
- Sample Port Plugged; No Sample Collected
- Sample Port Waterlogged; No Sample Collected
- Estimated Approximate Groundwater Elevation During Events 2 and 3
- (P) Perched Groundwater

### Contours:

20

- 1. Intervals in 100  $\mu \rm{g/L-Vapor}$ . 2. Queried where spatial control is lacking.
  - Note:

Location of cross-section is shown on Figure 4-8.

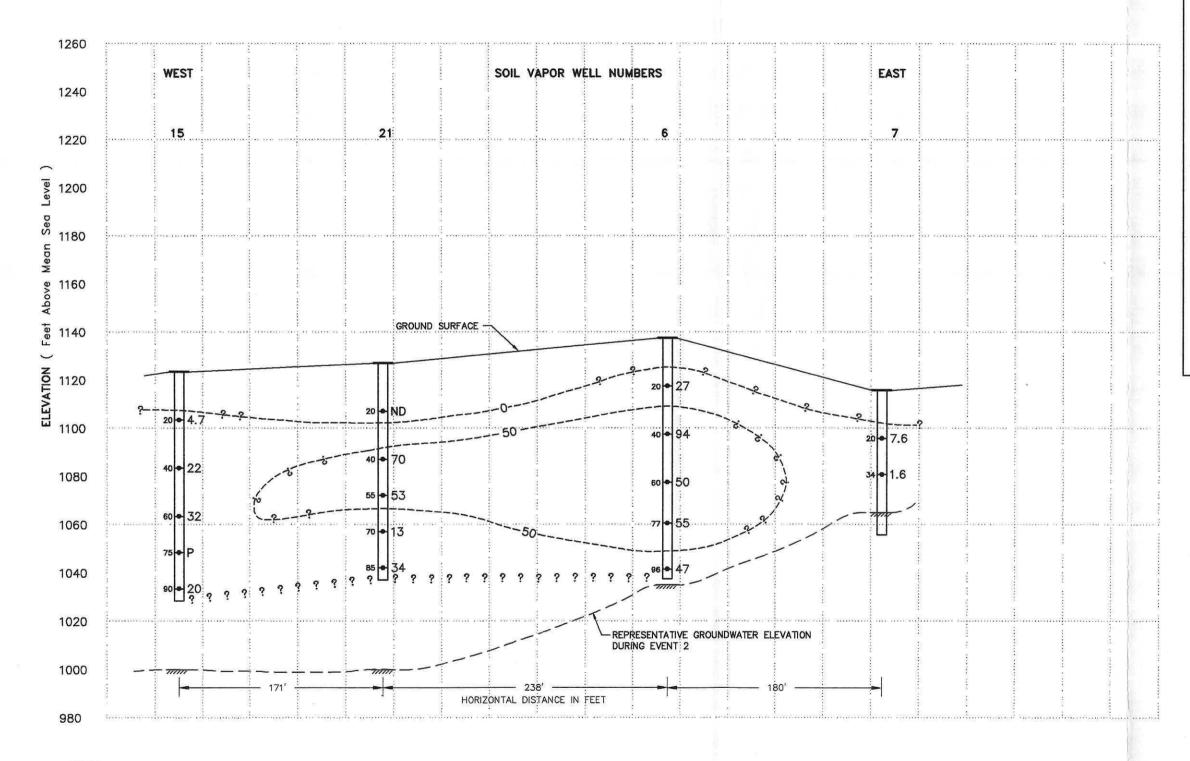
HORIZONTAL SCALE: 1"=160' VERTICAL SCALE: 1"=40'

> FIGURE 4-12 SECTION A

REPRESENTATIVE HORIZONTAL AND VERTICAL DISTRIBUTION OF TOTAL VOCS THROUGH THE AREA OF HIGHEST CONCENTRATION DURING THE TIME INTERVAL FOR EVENTS 2 AND 3 DECEMBER, 1994—MAY, 1995

Jet Propulsion Laboratory Pasadena, California





## NOTE:

THE CONCENTRATION SUMS PRESENTED INCLUDE THE HIGHEST RESULTS OBTAINED FROM EITHER EVENT.

## Explanation

- 20 Soil Vapor Sample Point and Depth
- Concentrations of Total VOCs ( µg/L-Vapor)
- Non-Detect @ Laboratory Detection of 1.0 μg/L-Vapor
- Sample Port Plugged; No Sample Collected
- Sample Port Waterlogged; No Sample Collected
- Estimated Approximate Groundwater Elevation During Events 2 and 3

#### Contours:

- 1. Intervals in 50  $\mu \rm{g/L-Vapor}$ . 2. Queried where spatial control is lacking.

# Note:

Location of cross-section is shown on Figure 4-8.

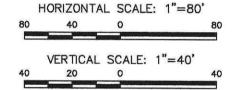


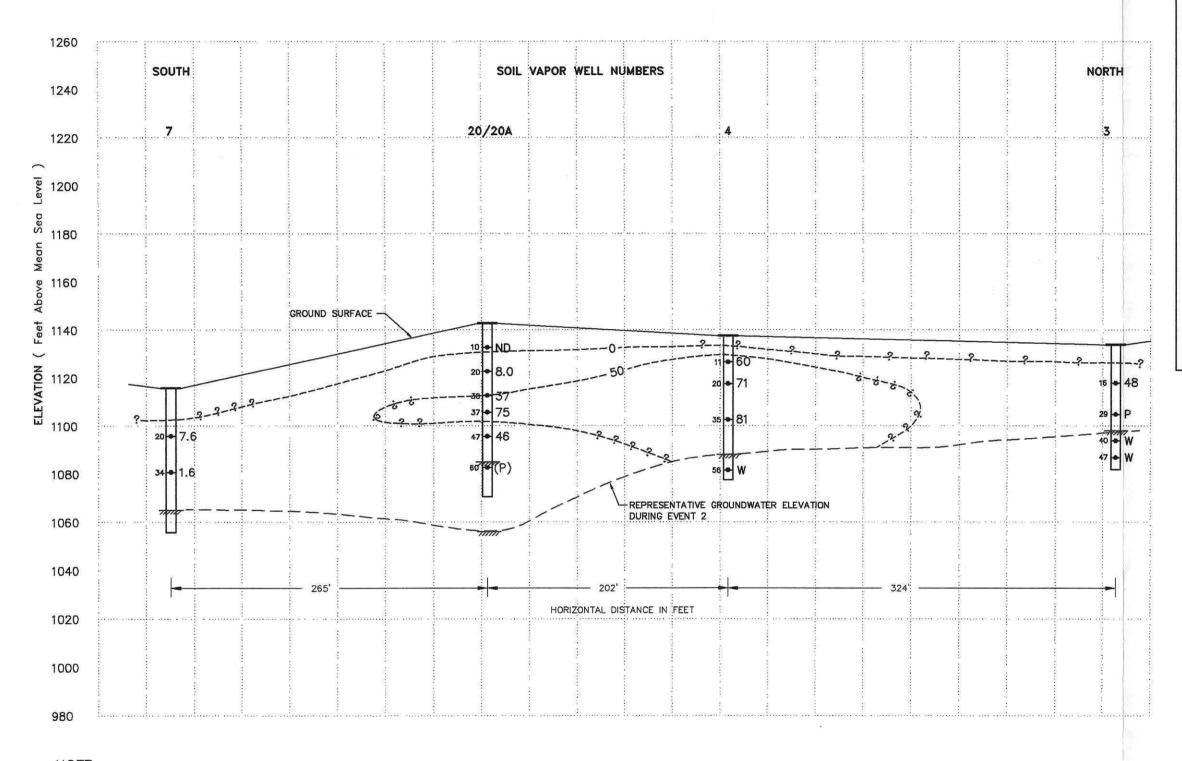
FIGURE 4-13

SECTION B

REPRESENTATIVE HORIZONTAL AND VERTICAL
DISTRIBUTION OF TOTAL VOCS IN THE SOUTHEASTERN
PART OF THE SITE DURING THE TIME INTERVAL
FOR EVENTS 2 AND 3
DECEMBER, 1994-MARCH, 1995

Jet Propulsion Laboratory Pasadena, California





- 20 Soil Vapor Sample Point and Depth
- Concentrations of Total VOCs
- $(\mu g/L-Vapor)$ 
  - Non-Detect © Laboratory Detection of 1.0  $\mu$ g/L-Vapor
- Sample Port Plugged; No Sample Collected Sample Port Waterlogged; No Sample
- Collected Estimated Approximate Groundwater Elevation During Events 2 and 3
- (P) Perched Groundwater

## Contours:

- 1. Intervals in 50  $\mu \rm g/L-Vapor$ . 2. Queried where spatial control is lacking.

## Note:

Location of cross-section is shown on Figure 4-8.

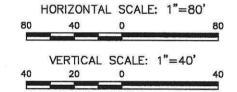


FIGURE 4-14 SECTION C

REPRESENTATIVE HORIZONTAL AND VERTICAL
DISTRIBUTION OF TOTAL VOCS IN THE EASTERN EDGE
OF THE SITE DURING THE TIME INTERVAL
FOR EVENTS 2 AND 3
DECEMBER, 1994—MARCH, 1995

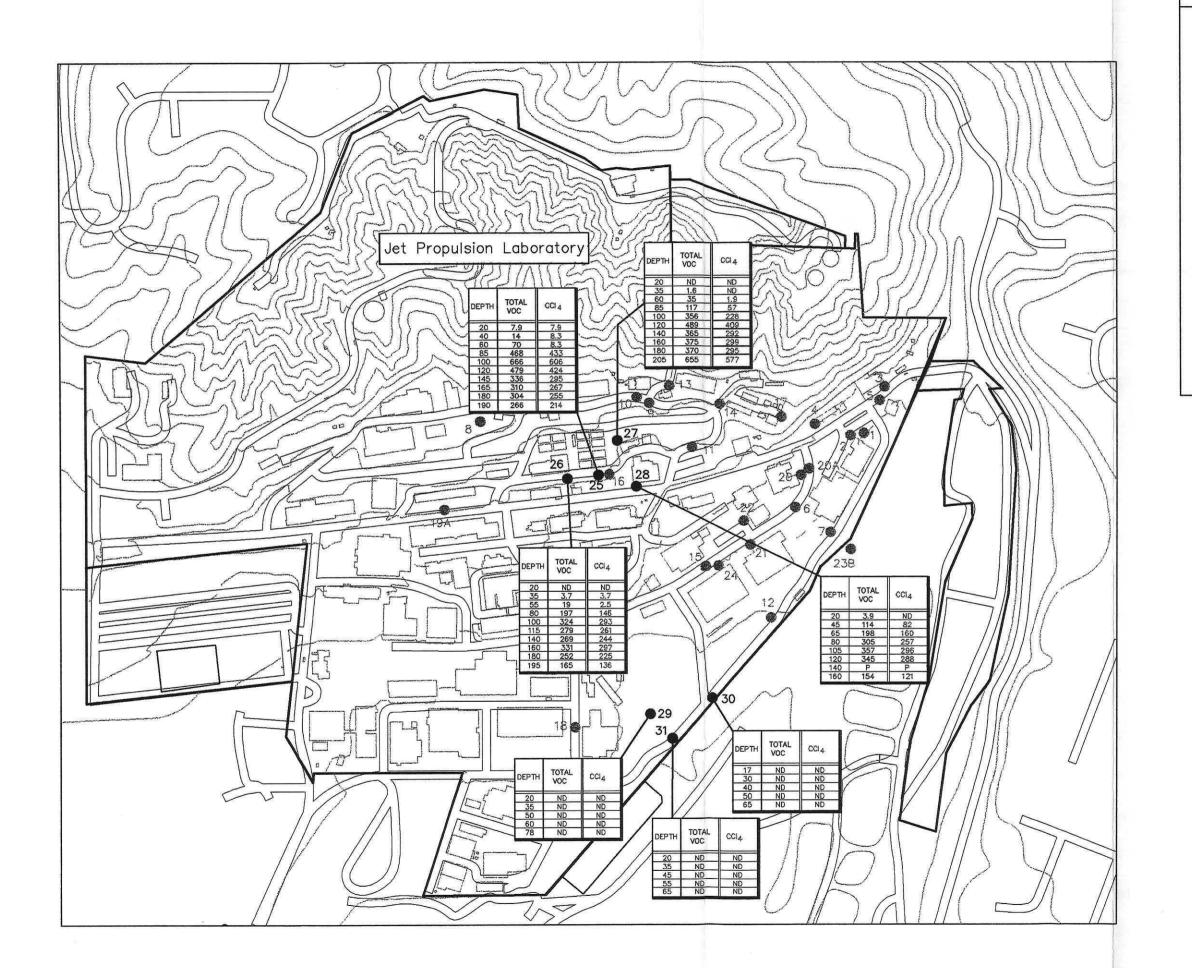
Jet Propulsion Laboratory Pasadena, California



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NOTE:

THE CONCENTRATION SUMS PRESENTED INCLUDE THE HIGHEST RESULTS OBTAINED FROM EITHER EVENT.



Explanation

31 Soil Vapor Wells Sampled During Event 4

24 Soil Vapor Wells Not Sampled During Event 4

CCI 4 Carbon Tetrachloride

VOC Volatile Organic Compounds

ND Non-Detect @ Laboratory Detection Limit (1.0 µg/L-Vapor)

P Sample Port Plugged; No Sample Collected

400

NOTE:

200

Concentrations in  $\mu g/L-Vapor$ 

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map
Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 4-15

TOTAL VOC AND CARBON
TETRACHLORIDE CONCENTRATIONS AT DEPTH,
EVENT 4
JUNE, 1997

Jet Propulsion Laboratory Pasadena, California

